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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,109	10/02/2003	Koji Takayama	8014-1068	8380

466 7590 06/08/2005

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ARLINGTON, VA 22202

EXAMINER

ENSEY, BRIAN

ART UNIT	PAPER NUMBER
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2643

DATE MAILED: 06/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/676,109

Applicant(s)

TAKAYAMA ET AL.

Examiner

Brian Ensey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Rexford Barnie
REXFORD BARNIE
PRIMARY EXAMINER

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of claims 1-5 in the reply filed on 5/18/05 is acknowledged.

Drawings

Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the

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various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sano Japanese Patent No. JP402194800A in view of Kimura Japanese Patent No. JP355075397A.

Regarding claim 1, Sano discloses a speaker surround arranged between a diaphragm and a frame of a speaker, the speaker surround comprising: a reinforcing member (1) installed inside foam (7), the reinforcing member being the one with no expansion and contraction upon deformation based on the displacement of the diaphragm (See Fig. 2 and translation constitution). Sano does not expressly disclose said foam is a urethane material.

However, the use of urethane foam in speaker surrounds and diaphragms is well known in the art and Kimura teaches a urethane foam (7) with an impregnated cotton reinforcing member (8) for forming a speaker surround (See Fig. 3 and translation constitution). It would have been obvious to one of ordinary skill in the art at the time of the invention to use urethane foam for an inexpensive surround (See Sano purpose).

Regarding claim 2, Sano discloses a reinforcing member but does not expressly disclose said the reinforcing member is a mesh reinforcing member. However, Kimura teaches a silk or cotton reinforcing member which is inherently a mesh by design (See Fig. 3 and translation constitution). Therefore, it would have been obvious to one of

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ordinary skill in the art at the time of the invention to use a mesh design to reinforce the surround of Sano for light weight and flexibility.

Regarding claim 3, Sano discloses a reinforcing member as claimed. Sano does not expressly disclose the reinforcing member is made of any one of aromatic polyamide fiber, cotton, polyester fiber, olefin fiber and nylon fiber. However, Kimura teaches a silk or cotton reinforcing member (See Fig. 3 and translation constitution). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a cotton mesh design to reinforce the surround of Sano for light weight and flexibility.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sano in view of Kimura as applied to claim 1 above, and further in view of Otha et al. U.S. Patent No. 5,031,720.

Regarding claim 4, Sano discloses a reinforcing member as claimed. Sano does not expressly disclose the reinforcing member comprises any one of plain weave, honeycomb weaving and triaxial weave. However, Kimura teaches a silk or cotton reinforcing member (See Fig. 3 and translation constitution) and Otha teaches a plain woven cloth or a cross woven cloth as a laminate layer in a speaker diaphragm (See Col. 4, lines 37-58 and col. 6, lines 52-63). It would have been obvious to one of ordinary skill in the art at the time of the invention to use any type of fabric design to reinforce the surround of Sano for light weight and flexibility.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sano in view of Kimura as applied to claim 1 above, and further in view of Uryu et al. U.S. Patent No. 5,274,199.

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Regarding claim 5, Sano discloses a reinforcing member as claimed. Sano does not expressly disclose the reinforcing member is made of any one of nonwoven fabric and triaxial combined nonwoven fabric. However, Kimura teaches a silk or cotton reinforcing member (See Fig. 3 and translation constitution) and Uryu teaches a reinforcement element for a speaker diaphragm unified directly to the diaphragm resulting in a web-non-woven fabric body for use as a composite acoustic diaphragm (See col. 4, lines 56-59). It would have been obvious to one of ordinary skill in the art at the time of the invention to use any type of fabric design to reinforce the surround of Sano for light weight and flexibility.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Ensey whose telephone number is 571-272-7496. The examiner can normally be reached on Monday - Friday 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on 571-272-7499. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Or faxed to:

(703) 872-9306, for formal communications intended for entry and for informal or draft communications, please label "PROPOSED" or "DRAFT".

Hand-delivered responses should be brought to: Customer Service Window, Randolph Building, 401 Dulany Street, Arlington, VA 22314

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BKE
June 2, 2005


REXFORD BARNIE
PRIMARY EXAMINER